

## ABSTRACT

Disclosed is an electrolyte membrane-electrode assembly wherein a hydrocarbon-based solid polymer electrolyte membrane is sandwiched between a pair of electrodes. In this electrolyte membrane-electrode assembly, the glass transition temperature of the electrolyte membrane in a dry state is not less than 160°C and the maximum moisture content of the electrolyte membrane is 10-120%. By using such a hydrocarbon-based solid polymer electrolyte membrane, there can be obtained an electrolyte membrane-electrode assembly which is excellent in reliability and durability. Also disclosed are a fuel cell using such an electrolyte membrane-electrode assembly and a method for producing such an electrolyte membrane-electrode assembly.